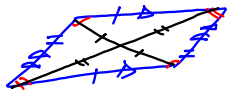
6.4 Rhombuses Rectangle and Square

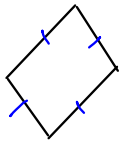


In a parallelogram
Opp sides ∥
Opp sides ≅
Opp angles ≅
Consecutive ∠'s supplementary
Diagonals bisect each other

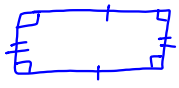
4 congruent sides

Rhombus

In a rhombus opp ∠'s are ≅



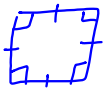
4 right angles



Rectangle
opp sides ≅

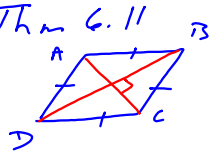
Is a rhombus and rectangle

Square



4 right ∠'s
4 ≅ sides

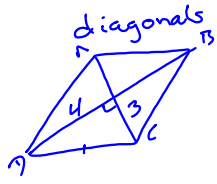
Thm 6.11



If ABCD is a Rhombus then
AC ⊥ BD

The diagonals are ⊥ bisectors

What is the perimeter of a rhombus whose diagonals are 6 and 8 ft long

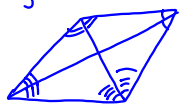


$AC = 6$
$BD = 8$
$4(5) = 20$ ft

$3^2 + 4^2 = (CD)^2$
$9 + 16 = (CD)^2$
$25 = (CD)^2$
$5 = CD$

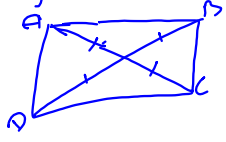
Thm 6.12

A quadrilateral is a rhombus iff the diagonals are angle bisectors



Thm 6.13

A Quadrilateral is a rectangle if and only if its diagonals are congruent



ABCD is a Rectangle iff $\overline{AC} \cong \overline{BD}$

Square

diagonals $\cong$, $\perp$, $\angle$ bisectors

P 351-354

4-46 even, 55-58 all